

Lesson 12

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- **Identifying Input Devices**
- **Identifying Purposes and Characteristics of Adapter Cards**

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Identifying Input Devices

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introduction

- An *input device* is one that transfers information outside the computer system to an internal storage location, such as system RAM, video RAM, flash memory, or disk storage.
- The input devices covered in the
- following sections are
 - Mouse
 - Keyboard
 - Barcode reader
 - Multimedia devices
 - Biometric devices
 - Touchscreen
 - KVM

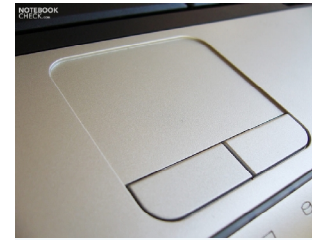
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Mouse

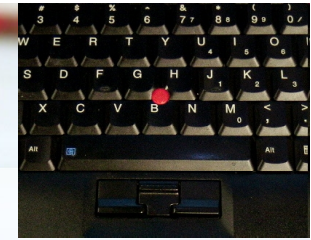
- Although the computer mouse was born in the 1970s
- Apple use it in 1984 with the introduction of the Macintosh.
- The motion-detection mechanism (ball, optical)
- The mouse today can be wired or wirelessly.
- Wireless versions use batteries to power them
- Macintosh use one button, Windows at least two
- mouse is commonly found to have a wheel
- Touchpads and pointing sticks are found mainly on laptops



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touchpads



pointing sticks



trackballs

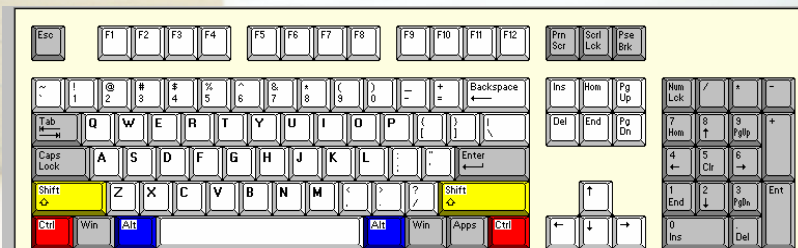


tablets,

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Keyboard

- keyboard places keys in the same orientation as the QWERTY typewriter(1860)
- numerical keypads
- keyboard interface is coded purple and the mouse green takes much of the guesswork out of analyzing icons(DIN5,DIN6,USB)
- function keys- laptop Fn keys



function keys- laptop Fn keys



Fn, or "Function", is a modifier key that allows access to additional

Press the Fn key simultaneously with one of the "F" keys below to activate common features.

Fn + F2	Switch the display output mode between the LCD, external monitor or both	Fn + F8	Increase speaker volume
Fn + F3	Enable or disable the touchpad	Fn + F9	Mute / Un-Mute
Fn + F4	Decrease the LCD brightness	Fn + F10	Battery saving mode (Extend battery life)
Fn + F5	Increase the LCD brightness	Fn + F11	Enable or disable wireless LAN and / or Bluetooth
Fn + F6	Enable or disable built-in camera	Fn + F12	Enable sleep (stand by) mode
Fn + F7	Decrease speaker volume		

keyboard standard layout

Dvorak Simplified Keyboard



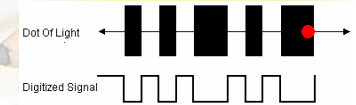
ergonomic keyboard



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Barcode Reader

- A bar code reader is a type of scanner that reads bar codes and then converts the bar code into data that is stored on the computer and used in applications. An example of an application that may take advantage of a bar code reader as an input device is an inventory application.
- Barcode readers can use LEDs or lasers as light sources
- Connection type(serial, USB)
- kb PS/2 connector using a splitter



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Multimedia Devices

- multimedia input are audio and video
 - Webcams
- webcam connects directly to the computer through an I/O interface, such as USB
- does not have any self-contained recording mechanism.
- Its sole purpose is to transfer its captured video directly to the host computer, usually for further transfer over the Internet.
- Webcams that have built-in wired and wireless NIC interfaces
- webcam for laptops
 - Microphones,

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Biometric Devices

- Any device that measures one or more physical or behavioral features of an organism is considered a *biometric device*.
- When the same device forwards this biometric information to the computer, it becomes an input device.
- The list includes fingerprint scanners, retinal scanners, voice recognition, and facial recognition, to name a few.
- company's documentation

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Touchscreens

- These input signals allow for the replacement of the mouse and kb
- Found also in PDA, ATMs
- Attach graphics adapter, and also attachment to a serial interface.
- The most popular of these has become the USB port,

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KVM Switch

- stand for keyboard, video, and mouse
- The purpose of the switch is to allow you to have multiple systems attached to the same keyboard, monitor, and mouse Common uses of KVM switches include using the same components alternately for a desktop computer and a laptop docking station or having a server room with multiple servers
- A KVM switch isn't an input device, but it allows you to switch between sets of input devices.
- KVM switches come in a variety of models.
- For example, your keyboard and mouse might attach with mini-DIN connectors or with USB connectors; your monitor might attach with a VGA or DVI connector.

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Identifying Purposes and Characteristics of Adapter Cards

Adapter card (also known as an expansion card)

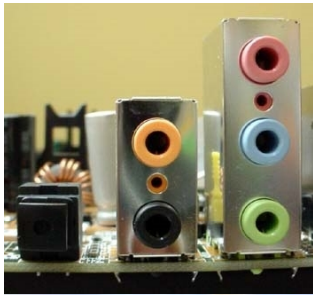
- An is simply a circuit board you install into a computer to increase the capabilities of that computer.
- no matter what function a card has, the card being installed must match the bus type of the motherboard(ISA , PCI, AGP)
- **The following are the four most common categories of expansion card installed today:**
- Video
- Multimedia
- I/O
- Communications

Video

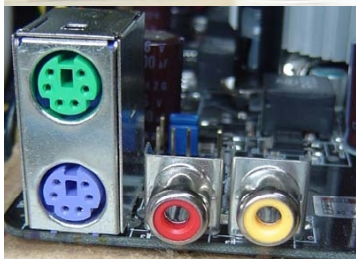
- more commonly called a video card
- is the expansion card you put into a computer in order to allow the computer to display information on some kind of monitor or LCD display.
- PCI AGP and PCIe

Multimedia Sound Card

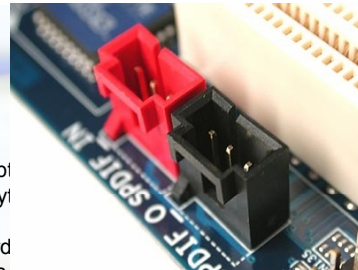
- A sound card typically has small, round, 1/8-inch jacks on the back of it for connecting to microphones, headphones, and speakers as well as other sound equipment.
- Many sound cards used to have a DA15 game port, which can be used for either joysticks or MIDI controllers.
- Sound cards today might come with an RCA jack digital audio specification known as the Sony/Philips Digital Interface (S/PDIF).
- Not only does this format allow you to transmit audio in digital clarity, but in addition to the RCA jack and coaxial copper cabling, it specifies optical fiber connectors (TOSLINK) and cabling for electrically noisy environments, further increasing transmission quality of



Detail of the Optical SPDIF Output



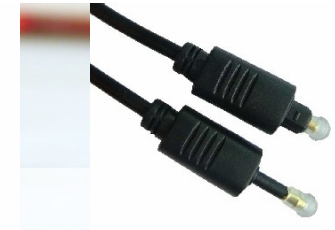
Detail of coaxial SPDIF input and output available on DFI LAN Party 925X-T2.



SPDIF adapter from Gigabyte K8NXP motherboard only outputs (both optical and coaxial).



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Multimedia TV Tuner Cards Video Capture Cards

- The TV tuner card is a class of internal and external devices that allows you to connect a broadcast signal, such as home cable television, to your computer and display it
- A video capture card can also be a stand-alone device and is often used to save a video stream to the computer for later manipulation or sharing.
- Most TV tuner cards act as video capture cards as well
- TV tuner cards and video capture cards need and often come with software to aid in the processing of multimedia input.

I/O

- *I/O card* is often a catchall phrase for any adapter card that expands the system to interface with devices that offer input to the system, output from the system, or both.
- serial and parallel ports
- SCSI hard drive or a SCSI-attached printer or scanner
- USB and FireWire interfaces.

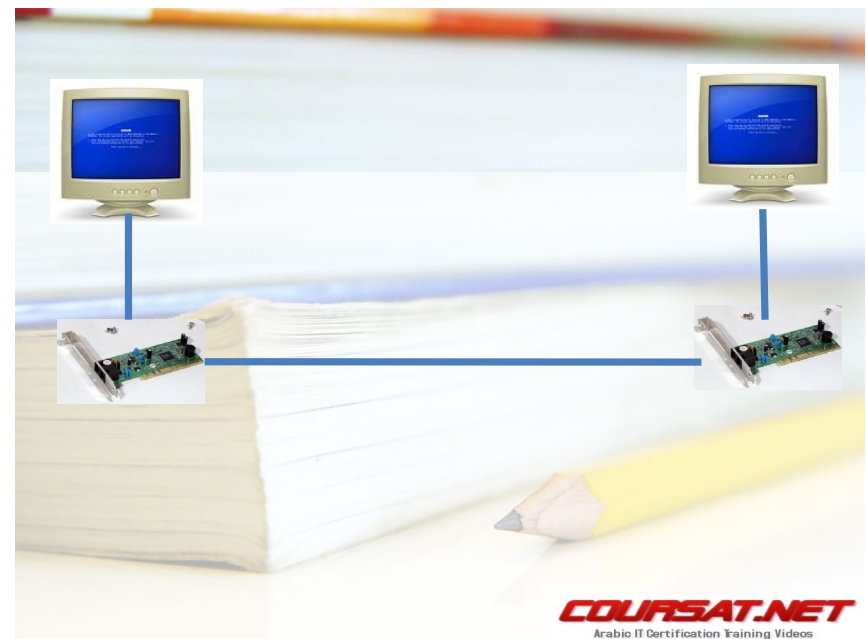
Communications Network Interface Card (NIC)

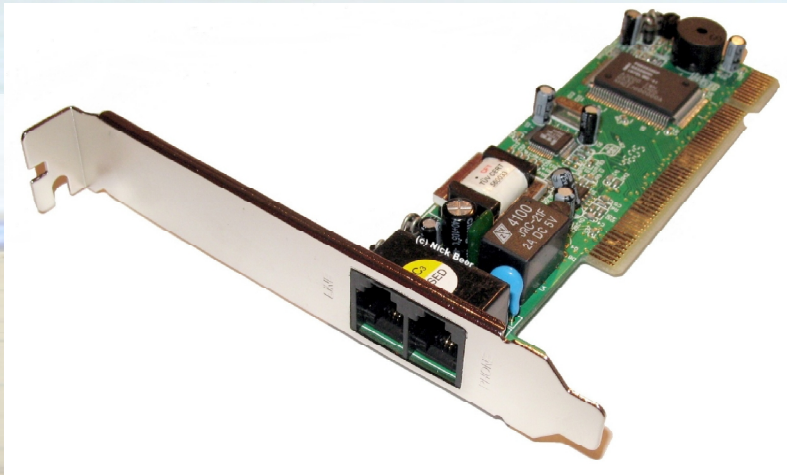
- is an expansion card that connects a computer to a network so that it can communicate with other computers on that network.
- NIC can also stand for network interface controller. It translates the data from the parallel data stream used inside the computer into the serial data stream that makes up the frames used on the network.
- It has a connector for the type of expansion bus on the motherboard (PCIe, PCI, ISA, and so on) as well as a connector for the type of network (such as RJ-45 for UTP, antenna for wireless, or BNC for coax).
- In addition to the NIC, you need to install drivers
- Some computers have NIC circuitry integrated



Communications Modem

- Any computer that connects to the Internet using a dial-up connection needs a modem, or *modulator/demodulator*.
- A *modem* is a device that converts digital signals from a computer into analog signals that can be transmitted over phone lines and back again.
- (PCIe, PCI, ISA, and so on) and another for connection to the telephone line.
- two RJ-11 ports: one for connection to the telephone line and the other for connection to a telephone.





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